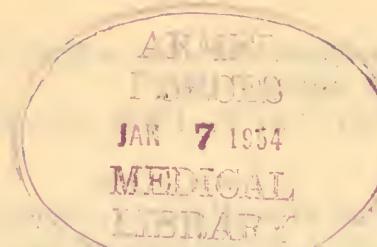


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Letter No. 4

February 15, 1943

Dear Doctor:

This letter is sent to you by the Surgeon Generals of the Army and Navy and the U. S. Public Health Service, with the cooperation of the American Medical Association and under the auspices of the Committee on Information of the Division of Medical Sciences of the National Research Council.

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Herbert T. Kelly and Myrtle Sheppard, University of Pennsylvania School of Medicine, analyzed the diets of 225 private patients to determine their daily intake of the known dietary essentials, using as a scale the recommended daily allowances for specific nutrients developed by the National Research Council. Among the 225 patients were 9 physicians, whose diets were just as bad as those of the other patients. The most prominent dietary deficiencies found were thiamine and riboflavin, 76 per cent being deficient in thiamine and 77 per cent deficient in riboflavin. A study was also made of a group of 223 persons who were not patients but who were of a similar social-economic status. Among the persons not under direct medical supervision, milk, eggs, fruit and wholewheat or enriched grain products were the foods most frequently found lacking. ("A Dietary Study of Subject from Upper Income Groups," New England J. of Med., Jan. 28, 1943, p. 118)

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A group of investigators in Great Britain working with the Medical Research Council has discovered that women and children in wartime have somewhat lower hemoglobin values than were normal for similar groups in the period previous to the war. Dietetic surveys of two hospitals indicated particularly a deficiency of animal protein content in the diets. It was felt that additional iron and increased amounts of animal protein were necessary. ("Anemia in Women and Children on War-Time Diets," by Wills, MacKay, Bingham and Dobbs, J. of Hygiene, Octo. 1942, p. 505)

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Alfred Blalock finds that the use of a tourniquet on an injured extremity should be avoided whenever possible. If, however, some sort of constriction is necessary, the temperature of the distal ischemic and anemic part should, if possible, be lowered by artificial means. Apparently the benefit of lowering of the temperature under such circumstances is due to a slowing of metabolic processes. ("Effects of Lowering Temperature of an Injured Extremity to which a Tourniquet Has Been Applied," Arch. of Surg., Feb. 1943, p. 167)

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The Bureau of Medicine and Surgery of the Navy has begun distribution of a new casualty tag made of linen, assembled in books of 25, with duplicates and carbon papers. Each tag has attached to it a strong copper wire for permitting attachment to the patient.

The new first-aid packet of the Bureau of Medicine and Surgery provides a small carton with 2-gram tablets of sulfadiazine flavored with peppermint and a packet of sulfanilamide crystals to be sprinkled lightly on wounds.

The Navy has also developed for its medical department a weekly news sheet for conveying unrestricted information.

(Army and Navy Journal, Feb. 6, 1943, page 650)

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The Indiana State Board of Medical Registration and Examination modified its regulations in January so that repetition of the senior year's work in an American medical school is no longer required of graduates from schools in Canada, but only by graduates of schools located outside the United States and its possessions and outside the Dominion of Canada. Several graduates of McGill took advantage of the change in regulations to take the January examination in Indiana.

In order to meet the demands of the emergency, the Indiana State Board of Medical Registration and Examination also waived for the duration the practical examination required of reciprocal applicants from states that require a like examination. The Board also suspended for the duration its requirement of one year of practice in the state from which the applicant reciprocates.

(The Journal of the Indiana State Medical Association, Feb. 1943, pages 98 and 99)

Another use for vitallium is the application of a vitallium tube to bridge a gap in the bile duct. Drs. J. W. Lord, Jr., and A. I. Chenoweth, Department of Surgery, Cornell University Medical College, found that a gap in the common bile duct of a dog could be bridged with uniform success by means of a free fascial graft from the anterior rectus sheath. The graft was fashioned into a cuff around a straight vitallium tube with a holder. They found also that venous grafts are only moderately successful, since they tend to shrink more rapidly and completely than fascial grafts. Free peritoneal grafts sloughed in four out of five cases. ("Free Graft Over a Vitallium Tube for Bridging a Gap in the Common Bile Duct of the Dog," Arch. Surg., Feb. 1943, p. 245)

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According to the Harvard Medical Alumni Bulletin (Jan. 1943), Harvard Medical School seems about ready to yield at last to the idea of women medical students. The suggestion was made during World War I, but failed.

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Hamilton R. Fishback gave the presidential address before the Chicago Pathological Society on "The Pathologist's Function in a World at War," describing some of the problems now faced by pathology. In the Army, pathology service is centered in the Army Medical Museum, while clinical pathology is directed from the Army Medical School. Six histopathologic centers have been established at strategic points near army laboratory concentration areas. All necropsies must be reported to the Army Medical Museum, including complete protocol, slides and gross specimens of any questionable or unusual material, together with the clinical data. This is true also of tumors. The Army need of pathologists is estimated roughly as one pathologist to 3000 or 4000 men. The pathology service of the Navy is headed by the pathology department at the Navy Medical School at Bethesda, Maryland. The U. S. Public Health Service and the Veterans Administration also utilize services of pathologists. At present the 2,307 hospitals approved by the American College of Surgeons have pathologists in charge of their pathology and laboratory work. The remaining 4000 hospitals have arrangements for pathologic examinations of material removed during surgery. (The Proceedings of the Institute of Medicine of Chicago, Jan. 15, 1943, p. 307)

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Lt. (j.g.) Robert H. Pudenz, M.C., U.S.N.R., reports a study on "The Repair of Cranial Defects with Tantalum" in The Journal of the American Medical Association (Feb. 13, 1943). He finds that tantalum is a satisfactory alloplastic material for the repair of cranial defects because it is noncorrosive, inert in tissue, nonabsorbable and malleable. The surgeon can form the flat tantalum sheet to the desired contour at the operating table. He recommends consideration of the use of tantalum in the repair of cranial defects resulting from craniocerebral injury.

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A study by J. P. Fox and A. S. Cabral on the duration of immunity following vaccination with 17D strain of yellow fever virus (Am. J. Hyg. 37:93-120, Jan. 1943) points out that the vaccination of adult populations with virus of established antigenicity results in the persistence of an immune state for at least four years and probably for much longer. In children, after vaccination, the level of protective antibodies does not rise so high as in adults and tends to fall more rapidly. The investigators studied 926 people who had been vaccinated, collecting the serum four years after vaccination and examining it for the presence of antibodies.

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The leading editorial in The Journal of the American Medical Association for February 13, 1943, covers the treatment of cerebrospinal fever in meningitis. The accumulation of data seems now to show that drug treatment alone will bring better results than combination with such an agent as foreign serum, which, even when given intravenously, may initiate a considerable number of reactions.

British experience shows that treatment with sulfonamide compounds alone usually produced better rates in every age group than serum alone or serum and sulfonamide compounds combined. Prompt diagnosis and early vigorous treatment preferably with sulfadiazine will save cases which would have been fatal in the event of employment of serum therapy. Other sulfonamide compounds may be used instead of sulfadiazine, including sulfathiazole. Most important is the prompt securing of a high blood concentration of 15 mg. per hundred cubic centimeters. Lumbar puncture is necessary practically only for initial diagnosis.

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Michael Good reports in Annals of the Rheumatic Diseases (Dec. 1942, p. 118) on 500 cases myalgia in the British Army. Myalgia is defined as a muscular disease with pain localized in well-definable parts of a muscle and its appendages. Diminished or temporary loss of power may occur. Pressure on the spot affected causes agonizing pain, sometimes referred also to parts away from the portion of the muscle affected. The author recommends as a rapid, effective and permanent cure, injections of procaine into myalgic spots, using a solution containing one gram of procaine and one-half gram of phenol in 100 cubic centimeters of physiologic saline solution. From one to two c.c. of this procaine solution is injected into the spot affected.

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An excellent review of progress in the study of bacillary dysentery appears in the Journal of Immunology for January, 1943, page 13. Every phase of the subject is discussed but with little information as to dysentery under tropical conditions. At present sulfathiazole and sulfaguanidine appear to be about equally

effective against bacillary dysentery. Mention is made that sulfanilylguanidine and succinyl-sulfathiazole (sulfasuxidine) are more slowly absorbed from the intestines than are other sulfonamide compounds and should, therefore, be considered most desirable against dysenteries. However, the fact that the organism is underneath the mucosa might invalidate this theoretical advantage. Moreover, severe diarrhea can nullify the intestinal action of any product. Consistent treatment of all cases and carriers with sulfaguanidine was found to be strikingly successful in terminating an obstinate infestation in a ward in an institution by observers of the United States Public Health Service.

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The British War Office has issued a bulletin on the use of morphine, pointing out that the ideal is to use the least dose that will be effective and that any dosage of over one-half grain is likely to increase the symptoms of shock and may repress the respiratory center. Disappointing results from smaller doses are often due to poor absorption. Intramuscular injection is preferable and intravenous injection when relief of pain is urgent. An intravenous dosage of 1/6 to 1/4 grain, diluted to at least 1 c.c. with sterile water and injected over a period of a minute or more, will reduce pain almost immediately. When injection is impossible, two 1/4 grain tablets may be placed beneath the tongue.

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The Medical Research Council of Great Britain has undertaken the establishment of a national collection illustrating the injuries of the present war to include specimens, pictures, photographs and roentgenograms of lesions produced by missiles, gases, crushing injuries, blast and infection. Specimens are to be sent to Prof. M. J. Stewart, Pathology Department, University of Leeds, or to Prof. Hadfield, Hill End Hospital, St. Albans, Herts.

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According to a report in The Journal of the Royal Institute of Public Health and Hygiene (Jan. 1943, p. 1), various committees in Great Britain interested in some of the aspects of postwar relief to Europe have already prepared: 1) a mass of data showing the food situation in the occupied countries, 2) a basic list of drugs which will be needed in those countries as they are liberated, 3) the amount of iron ration necessary for 100,000 people of the various nationalities, 4) a tentative plan for dealing with expectant and nursing mothers and for coping with the large numbers of cases of tuberculosis and typhus which are anticipated, and 5) steps necessary to restore suitable standards of nutrition and to prevent an increase of infection.

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An editorial note in The Journal of the Royal Institute of Public Health and Hygiene (Jan. 1943, p. 7) states that the Beveridge plan would demand many more doctors and dentists than are available in Great Britain and that one of the first tasks of the "Minister of Social Security" may possibly be to arrange for their training.

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According to the report of Lend-Lease Administrator Edward A. Stettinius, Jr., supplies lend-leased by Britain to our armed forces include among other materials four complete 1000-bed field hospitals and medical supplies for 100,000 men. (Report to the 78th Congress on Lend-Lease Operations)

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A report in the first issue of the Journal of Oral Surgery includes a paper by Drs. Carl W. Waldron of Minneapolis, V. H. Kazandjian of Boston and Douglas B. Parker of New York describing a method for treating fractured jaws other than with dental splints and elaborate wiring. The apparatus in its present form is both small and lightweight, consisting of two small units and two rustless pins each, according to the review. The pins are inserted through the flesh and the bone, one unit at each side of the fracture. The fracture is reduced manually and a fixation bar then joins the two units, immobilizing the fracture completely, although the apparatus may be readjusted at any time. Credit for the first experimentation in external appliance and pin fixation for jaw fractures is usually given to Roger Anderson, according to the authors. They state: "This bone transfixion appliance is described as a new fracture unit expressly designed to meet the urgent requirements of modern and future air and sea warfare. The weight of the appliance has been reduced to a minimum. The evacuation and transportation of patients with securely immobilized fractures are greatly facilitated."

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The U. S. Public Health Service has established an Office of Tuberculosis Control. At present the service has eight 35 mm. photofluorographic units in operation in war industries. Each unit includes a medical officer, a technician, a clerk and complete equipment for exposing and processing from 300 to 500 small films per eight-hour day. The U. S. Public Health Service also has two 4 by 5 inch units available for special projects. Orders have been placed for twelve additional small units, and the necessary personnel is being recruited. With twenty units in full operation during 1943, it is expected that two million chest x-ray examinations will be made by the U. S. Public Health Service in cooperation with state health departments. A consultation staff or part-time and full-time specialists in tuberculosis and roentgenology is being developed for service to state and municipal health departments. (J.A.M.A., Feb. 13, p. 520)

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A special report from Russia by cable to The Journal of the American Medical Association says: "Prof. A. Braunstein explained the mechanism of action of thiamine on pain. He studied also thiamine hypovitaminosis processes associated with lesions of the central and peripheral nervous system. These data demonstrate the exceptional therapeutic value of thiamine in the treatment of lesions of the cerebrum, the spinal cord and the peripheral nerves." (J.A.M.A., Feb. 13, p. 521)

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Drs. S. A. Portis and I. H. Zitman report (J.A.M.A., Feb. 20, p. 569) that the fatigue frequently observed in patients with neuropsychiatric complaints may be associated with hyperinsulinism resulting from temporary or prolonged stimulation of the right vagus nerve, this in turn being an effect of emotional processes related through the hypothalamus to the autonomic nervous system. The injection of atropine prevents this stimulation and allows blood sugar curves to return to near normal. Treatment of four patients based on this technic seems to have brought improvement.

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Evaluation of the nutritional status is discussed by H. D. Kruse in a special article prepared under the auspices of the Council on Foods and Nutrition of the American Medical Association and published in The Journal of the American Medical Association, Feb. 20, 1943, p. 584. After a consideration of all of the different methods that have been proposed for evaluating nutritional status, Kruse concludes that the use of deviations in growth shown by height or weight as an indication of malnutrition breaks down at the very point at which it is most needed--the borderline zone. It does not satisfactorily separate the slightly abnormal from the normal. An obvious and unequivocal disturbance in weight or other measurements, of course, indicates serious malnutrition. The predominant clinical point of view has been that a deficiency disease begins or has its significance when it becomes perceptible, usually on simple inspection. That point is, however, not the beginning of the disease. The early and mild states of deficiency are below the manifest level. Among the manifestations of a deficiency disease on a dietary basis are: lowered concentrations of the essential factor in the blood; depleted storage in the body's reservoirs; diminished excretion; microscopic change in the tissue in the initial site; gross morphologic and functional change. For instance, lowered values for ascorbic acid in the absence of other signs do not constitute scurvy from a clinical point of view. Clinically, the condition is not scurvy until it has advanced to macroscopic tissue changes and developed signs. Obviously however, the time to begin treatment is before the clinical signs develop.

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